The WiSe Box

ircam Centre Pompidou

Multi-performer Wireless Sensors Digitizing Technology - 802.11b

The WiSe Box is the perfect companion for multiple performers using gestural sensors. Its high resolution and data rate make gestural sensing more accurate and make the continuous control of sound parameters smoother !

The WiSe Box can be applied to a variety of settings from Solo Laptop Performances to Dance Pieces with several dancers. Its WiFi technology makes it immediately compatible with computers and networks. All you need is a computer equipped with a WiFi adapter or WiFi Access Point to be connected with the WiSe Box!

Wireless sensor data can be used to control sound synthesis, spatialization or Vjing; let your imagination flow with Max/MSP or Pure Data to create intense interactivity between Gesture and Multimedia.

"WiSe up" your sensors, and let your Body speak!

Wireless Sensors

Device Specifications

- Product title : WiSe Box – Wireless Sensors
- Function : WiFi / OSC sensors digitizing
- Size : 110 x 65 x 28 mm
  Weight : 180 g (6.35 oz.)
- Color : black (ABS plastic housing)
- WiFi Compatibility : 802.11b (11 Mbps)
  Ad-hoc & Infrastructure modes support
- USB (setup) : 1.1 compliant (5 pin Mini-B con.)
- Analog inputs : 16
- Sensors' analog dynamic range : **3.3 volts**
- Input impedance : 470 kΩ
- ADC : 16 bits – [0 - 65535] digital value
- Digitized offset : 100 (typ.)
- SNR : 86.5 dB @99.5%
- Sampling rate : User defined [5;999] ms (Sensors number Independent)
- Radio time-of-flight @11 Mbps : < 100 µs
- Power supply : DC [3.4V – 6.2V]
  290 mA (without sensor)
- Power mode : Batteries or USB (native port only)
- Sensors powering : 100 mA max.
- Polarity protection : none
- Batteries : 4 x AAA alkaline batteries or
  850 mAh rechargeable NiMH (this type ONLY)
- Typ. autonomy* : 140 minutes (alkaline batteries)
  125 minutes (Ni-MH batteries)
- Range : 30 m (960 ft) within buildings
  100 m (3200 ft) line-of-sight/outdoors**
- OpenSoundControl : 16 integer list
- Polyphony : 16 devices (Infrastructure mode)
  with 4 AP on distinct channels
- Accessories :
  - USB cable
  - Belt clip
  - CD-ROM with user's manual, drivers and configuration utility
  - 2 x blank HE-10 female plug (3M - #8516-4500JL)

* Average, measured with 2 accelerometers and 4 flexion sensors
** Relies on WiFi adapter / access point and condition of use

Minimum Requirements

- Windows XP or MacOS X.3 for device configuration
- Any OS with WiFi and OSC compliant software (compatible with OSC integer lists)
  [Pure Data – Max/MSP – Eyesweb – Super Collider]
- Pentium III 900 MHz / G4 800 MHz / 512 MB RAM minimum
- One free USB 1.1 native port or powered USB hub.
- **802.11b** WiFi adapter (ad-hoc mode) or 802.11b WiFi AP or Airport Extreme (infrastructure mode).
  An access point is REQUIRED for multi-performer use.
- We strongly recommend the use of the Linksys WRT-54g for enhanced performance
- Some electrical engineering and wiring skills may be required to connect and operate sensors

Design & Contact

The WiSe Box has been designed by {Emmanuel FLETY – Nicolas LEROY – Remy MULLER} @Performing Arts Technology Research Team

Please send your Technical Questions to : emmanuel.flety@ircam.fr

Marketing Contact : admin-forum@ircam.fr

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